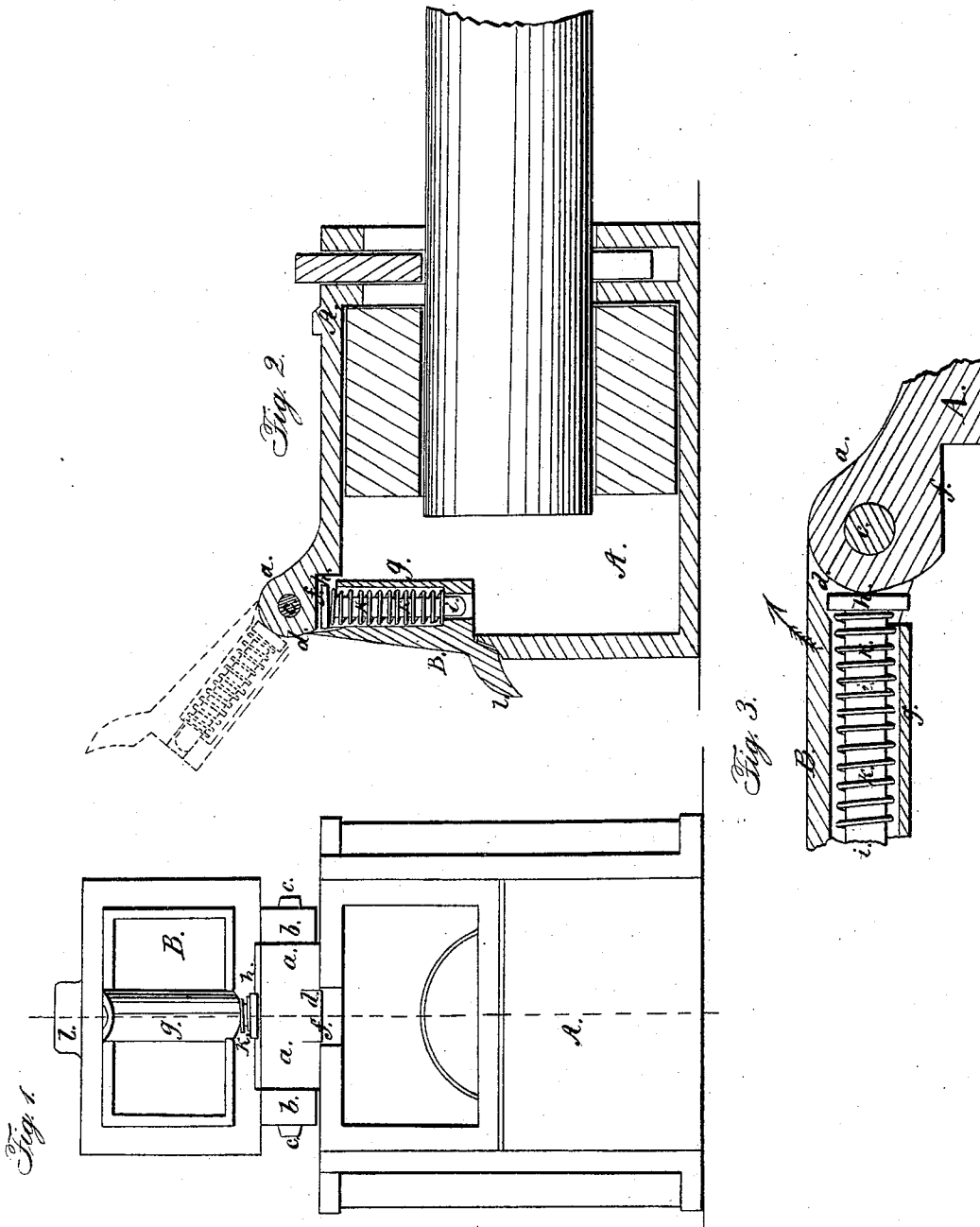


D. S. WOOD.
Car-Axle Box.

No. 42,037

Patented Mar. 22, 1864.



Witnesses:

Jay Hyatt
Douglas Bly.

Inventor.

D. S. Wood.
By J. Fraser & Co. Attys.

UNITED STATES PATENT OFFICE.

D. S. WOOD, OF ALBANY, NEW YORK.

IMPROVEMENT IN AXLE-BOXES FOR RAILROAD-CARS.

Specification forming part of Letters Patent No. 42,037, dated March 22, 1864.

To all whom it may concern:

Be it known that I, D. S. WOOD, of the city and county of Albany, in the State of New York, have invented a new and useful Improvement in the Oil-Boxes of Car-Axles; and I hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front elevation of an oil-box with my improvement applied thereto, the cover being shown open. Fig. 2 is a central vertical section of the same, the cover being represented raised, by red lines, with a portion of the car-axle shown in elevation. Fig. 3 is an enlarged view of a portion of the cover B and hinge of the box A, showing the spring pressure-bolt *i* and cam *d*.

My invention consists in an improved construction of the cover to the oil-boxes of car and other journals, by which it may be held in position when fully open or when only partially raised, and also securely retained when closed, without the aid of bolts, nuts, latches, or other fastenings.

As represented in the drawings, A is the box which receives the bearing of the journal and the waste and oil or other lubricating material. Access is had to the interior of the box through an opening in the front which is closed by the cover B. This cover is attached to the top portion of the box by means of a hinge, consisting of the knuckles *b b* of the cover and the corresponding part *a* on the top plate of the box, and the pivot or bolt *c*, which passes through these parts and secures the whole together.

The central portion, *d*, of the knuckle *a* is enlarged to form a cam of the shape and for the purpose hereinafter described. The cover is provided with a cylindrical enlargement, *g*, on the under side, in which a hole or socket is drilled or otherwise formed in a direction at right angles to the axis of the hinge, or vertical when the cover is shut. This hole is of sufficient size to receive a bolt, *i*, the enlarged head *h* of which rests against the cam *d*. The stem of this bolt is surrounded by a coiled spring, *k*, which is compressed by inserting it in the socket of the cover so as to exert considerable pressure of the head of the bolt on the cam, while the bolt itself is free to move

and conform to the irregular surface of the cam.

When the cover is raised, the pressure of the bolt-head *h* against the surface of the cam *d* is such as to hold the cover at any position to which it may be convenient or desirable to raise it, either horizontally or at the inclination shown by the red lines in Fig. 2, or higher, holding equally well at any point. The lower side, *f*, of the cam is made nearly horizontal, being thus abrupt, producing the greatest eccentricity at a point directly in front of it, the effect of which is to require the greatest force to be exerted in starting or beginning to raise the cover, thereby rendering it secure against accidental opening. A lip or projection, *l*, affords a convenient lever for raising the cover, while it serves the additional purpose of covering the joint and effectually excluding dust and water.

As ordinarily constructed, the covers of oil-boxes are secured in place by the use of screw-bolts passing through them into the sides of the box, or by the use of a flat steel spring of considerable power attached to the cover and passing out and acting upon a stationary cam. The former method has the serious objection of requiring too much time in removing and inserting the bolts for the examination of the journals, which must often be done during the temporary or accidental stoppage of a train, when time is of great importance, and also of the liability of the bolts to come out from continued jarring and the consequent loss of the cover. The latter method is objectionable because the spring, when so applied, is liable to break and requires to be carefully made and fitted to be effective, and then only acts to hold the cover when shut. It also leaves a loose joint through which dirt can enter.

It is the object of my invention to produce an equable action of the spring upon the cam in whatever position the cover may be placed, and by the formation of the cam itself, as described, to render the cover more securely held when closed, which is effected with no greater pressure of the spring. This enables a coiled spring to be employed, saving considerable expense, and prevents danger from breaking, as a coiled spring is by far the most durable that can be used. The spring

and bolt being almost wholly concealed in the socket by the cover are not liable to be clogged or their action damaged by contact with any portion of the waste or lubricating material to which the flat spring is liable. By chilling the cam *d* the same is not subject to much wear, while the friction is very small, and therefore the cover is easily raised, at the same time being securely held when down.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the pressure-bolt *i* with the cover B and cam *d*, arranged and oper-

ating substantially in the manner and for the purposes set forth.

2. In combination with the spring pressure-bolt *i* and cover B, the cap or enlargement *g*, for protecting the bolt from dirt or other obstructions, substantially as described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

D. S. WOOD.

Witnesses:

JAMES B. SANDERS,
JOHN A. GOEWEY.